Claims

What is claimed is:

1. An infrared radiator having a luminous element for producing infrared radiation which is arranged in the interior of a vessel which is permeable to infrared radiation, the vessel having a region which surrounds said interior and at least one closed end which is connected to said region, and said vessel being coated with an interference filter, wherein said interference filter extends at least over said entire region which surrounds said interior, and said interference filter is designed such that it is transparent to infrared radiation of a predetermined subrange from the wavelength range of 700 nm to 3500 nm, and radiation emitted by the luminous element from the visible spectral range and infrared radiation outside the predetermined wavelength range is reflected back into the interior of said vessel.

2. The infrared radiator as claimed in claim 1, wherein said interference filter is in the form of a coating on the outer surface of the vessel.

3. The infrared radiator as claimed in claim 1, wherein said luminous element comprises at least one incandescent element.

4. The infrared radiator as claimed in claim 3, wherein the material, the geometry and the dimensions of said at least one incandescent element are selected such that the incandescent element has a temperature of at least 2900°C during operation of the infrared radiator at its rated operational data.

5. The infrared radiator as claimed in claim 3, wherein said at least one incandescent element is an incandescent filament.

6. The infrared radiator as claimed in claim 5, wherein said vessel is axially symmetrical, and said at least one incandescent filament is aligned axially within the vessel.

7. The infrared radiator as claimed in claim 6, wherein said region of the vessel which surrounds said interior is in the form of an ellipsoid.

8. The infrared radiator as claimed in claim 1, wherein said predetermined subrange extends from 720 nm to 920 nm.

9. The infrared radiator as claimed in claim 1, wherein said predetermined subrange extends from 800 nm to 1000 nm.

10. The infrared radiator as claimed in claim 1, wherein said predetermined subrange extends from 800 nm to 1200 nm.

11. The infrared radiator as claimed in claim 1, wherein said predetermined subrange extends from 800 nm to 2000 nm.

12. The infrared radiator as claimed in claim 1, wherein said predetermined subrange extends from 2500 nm to 3500 nm.

13. The infrared radiator as claimed in claim 1, wherein said luminous element is a gas discharge in xenon.

14. An irradiation apparatus having the infrared radiator as claimed in claim 1.

15. The irradiation apparatus as claimed in claim 14, having a reflector for infrared radiation which surrounds said infrared radiator.